



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/721,746

11/26/2003

Susumu Yamada

16359-004001

3945

26171

7590

05/10/2004

FISH & RICHARDSON P.C.

1425 K STREET, N.W.

11TH FLOOR

WASHINGTON, DC 20005-3500

EXAMINER

NGUYEN, JOHN B

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant N .

10/721,746

Applicant(s)

YAMADA, SUSUMU

Examiner

John B Nguyen

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada (U.S Patent No. 6,304,203 B1).

2. Regarding to claim 1, Yamada disclose a sequential comparison type AD converter (Fig. 3) comprising: series resistors (column 6, lines 27-30) for generating at respective connection portions reference values (column 6, lines 32-35) to convert an analog value to an m-bit digital value (ABSTRACT); a comparator (5) for sequentially comparing the analog value (10) and one of the reference values (column 6, lines 47-49) and outputting a digital value (column 7, lines 15-19); a plurality of capacitive elements (8) for distributing any one of the reference values by a capacitance ratio (column 6, lines 49-53, column 9, lines 48-50); and a control unit (9, column 6, lines 54-59) for switching a value compared to the analog value (10) by the comparator (5) from the reference value (column 6, lines 32-35) to a distribution value of the plurality of

Art Unit: 2819

capacitive elements (8) when the comparator outputs an m-bit digital value (ABSTRACT), wherein the analog value is converted to an (m + n) bit digital value (column 3, lines 12-20).

3. Regarding to claim 2, the sequential comparison type AD converter according to claim 1, wherein the plurality of capacitive elements (8) distribute by the capacitance ratio (column 9, lines 48-50) the difference of reference values generated at predetermined connection portions of the series resistors (column 6, lines 31-35).

4. Regarding to claim 5, the sequential comparison type AD converter according to claims 1, further comprising a switching circuit (4, TG0) for switching on and off input of the reference value (column 6, lines 47-49) to the comparator based on an output of the control unit (9).

5. Regarding to claim 6, a microcomputer comprising the sequential comparison type AD converter according to claim 1 (column 3, lines 64-67).

Allowable Subject Matter

6. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See enclosed Form PTO-892).

Application/Control Number: 10/721,746
Art Unit: 2819

Page 4

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B Nguyen whose telephone number (571) 272-1808. The examiner can normally be reached on 8AM-4: 30 PM M-F.


John B. Nguyen
April 29, 2004